No vendor immediately submitted the LTPP segment sketch/schematic. Due to time limitations it was determined that the vendors would not be asked to submit these sketches/schematics. However, each has stated that with the collected data such sketches/schematics could be generated. Finally, both Pathway and Fugro Roadware were able to include GPS coordinates for the beginning and ending points of the sections. Mandli also has the capability. Note that while the vendors did not submit similar coordinates for the NCDOT survey they could do so. Since the coordinates of the vendor submitted data and the NCDOT reference survey data did not exactly agree some averaging was necessary. The reference survey sections were plotted on a map of the test course along with the vendor's GPS coordinates to identify the closest vendor sections. The two vendor sections that overlapped the reference survey data were averaged. In the subsequent graphs the extreme error bars on the vendor data represent the extremes found from either of these overlapping sections. In the following sections the distress and severity descriptions are taken directly from the most recent LTPP distress manual (Miller and Bellinger 2000).

3.4. NCDOT Asphalt Concrete Survey

3.4.1. Fatigue Cracking

3.4.1.1. Definition of Distress

Alligator cracking is a load associated structural failure. The failure can be either in the surface, base or sub-base. Permanent deformation (rutting) does not have to be present for there to be alligator cracking. Cracking first begins in the wheel path, usually as longitudinal cracking. Further stress creates an alligator pattern. If the surface is very flexible the longitudinal crack will become wider and an alligator pattern may not develop until severe distress sets in. The proper solution for both alligator and longitudinal cracking is the same since a structural failure is taking place in both cases. Alligator cracking also includes cracking along the pavement edge, e.g., edge cracking.

The NCDOT rating process includes four different levels of severity reported as a base 10 percentage, i.e., a rating of 10 would mean 100% for the given distress. The lowest rating is none and the other levels are defined thusly:

Light: Longitudinal disconnected hairline cracks about 0.125 in wide running parallel to each other; initially may be only a single crack in the wheel path or edge of pavement but could also look like an alligator pattern.

Moderate: Longitudinal cracks in wheel path(s) or edge of pavement forming an alligator pattern; cracks may be lightly spalled and are about 0.25 in wide.

Severe: Cracking has progressed so that pieces appear loose with severely spalled edges; cracks are about 0.375 to 0.50 in wide or greater; potholes may be present.

3.4.1.2. Data Processing and Results

Fugro Roadware submitted their data in the same format as the NCDOT by mile increments and no additional processing was needed. Pathway's submitted data were given in percentage base 100 and required some easy conversion to base 10 percentages. Mandli submitted data in percentages based on a single travel lane being 50% of the total section. For divided highways NCDOT ranks the entire section based on the worst lane, e.g., the worst lane in the travel direction represents 100% of a divided highway. Both the Fugro Roadware and Pathway groups scanned and reported percentages only on a single travel direction on the two-lane rural sections